AF

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

JOHN M. VERBIL et al.

Serial No.: 09/874,152

Filed: June 4, 2001

For: AIN CALL QUEUING

Attorney Docket No.: 1847 (USW0627PUS)

Group Art Unit: 2642

Examiner: Rasha S. Al-Aubaidi

APPEAL BRIEF UNDER 37 C.F.R. § 41.37

Mail Stop Appeal Brief - Patents
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Sir:

This is an Appeal Brief from the final rejection of claims 1 and 4-28 of the Office Action mailed on June 30, 2005, for the above-identified patent application.

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I. REAL PARTY IN INTEREST

The real party in interest is Qwest Communications International Inc, a corporation organized and existing under the laws of the state of Delaware, and having a place of business at 1801 California Street, Suite 3800, Denver, Colorado, 80202, as set forth in the assignment recorded in the U.S. Patent and Trademark Office on June 4, 2001 at Reel 011882/Frame 0821.

II. RELATED APPEALS AND INTERFERENCES

There are no appeals or interferences known to Appellants, the Appellants' legal representative, or assignee which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

III. STATUS OF CLAIMS

Claims 1 and 4-28 are pending in this application. Claims 1 and 4-28 have been rejected and are the subject of this appeal.

IV. STATUS OF AMENDMENTS

A response after final rejection was filed on September 7, 2005, in which no amendments were proposed.

V. SUMMARY OF CLAIMED SUBJECT MATTER

Appellants' invention provides an inexpensive alternative for call queuing by queuing calls at an intelligent peripheral within an Advanced Intelligent Network (AIN) telecommunication system. With reference to Figures 5-7, a method is provided for queuing calls to a subscriber 34 of queuing services accessed through a subscriber line 116. Call Forward on Busy Line is provisioned on the subscriber line to permit detecting a call to the subscriber line at a local switch 30 connected to the subscriber line. If the subscriber line is busy, as in block 132, the call is forwarded to an intelligent peripheral 42 within an Advanced

Intelligent Network (AIN) telecommunications system 38, as in block 136. The call is placed in queue 43 in the intelligent peripheral, as in block 140. A determination is made that the subscriber line is not busy, as in block 154. If a call is queued in the intelligent peripheral and the subscriber line is determined to be not busy, the call is connected to the subscriber with the subscriber line, as in block 158.

With continuing reference to Figure 5, a system for queuing subscriber calls within an Advanced Intelligent Network (AIN) telecommunications system 38 is also provided. Each subscriber call is placed by a caller 110 to a subscriber line 116. The system includes a local switch 30 servicing the subscriber line. The local switch has Call Forward on Busy Line functionality provisioned on the subscriber line which forwards any subscriber call received for the subscriber line when the subscriber line is busy. An intelligent peripheral 42 within the AIN system receives any forwarded subscriber call from the local switch. If queue slots 43 are available in the intelligent peripheral, the received subscriber call is queued. A busy check call is placed to the subscriber line. The busy check call is dropped if the busy check call is forwarded back to the intelligent peripheral from the local switch. A queued subscriber call is connected to the busy check call if the subscriber line is not busy.

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Claims 1, 4-10, and 21-28 stand rejected as unpatentable under 35 U.S.C. § 103(a) over U.S. Patent No. 5,600,710 to Weisser, Jr. *et al.* (henceforth, Weisser) in view of U.S. Patent No. 6,597,780 to Knoerle *et al.* (henceforth, Knoerle) and in further view of U.S. Patent No. 5,668,861 to Watts (henceforth, Watts). Claims 11-20 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Weisser in view of Knoerle. Claims 1, 4-10, and 21-28 also stand rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent No. 5,844,896 to Marks *et al.* (henceforth, Marks).

VII. ARGUMENT

Appellants believe claims 1 and 4-28 are patentable over the cited art and respectfully request consideration by the Board in light of the following arguments.

A. Claims 1, 4-10, And 21-28 Are Patentable Under 35 U.S.C. § 103(a) Over Weisser, Knoerle, and Watts

Claims 1, 4-10, and 21-28 stand rejected as an obvious combination of Weisser, Knoerle, and Watts. Claim 1 provides a method of queuing calls to a subscriber of queuing services accessed through a subscriber line. Call Forward on Busy Line is provisioned on the subscriber line to permit detecting a call to the subscriber line at a local switch connected to the subscriber line. If the subscriber line is busy, the call is forwarded to an intelligent peripheral within an Advanced Intelligent Network (AIN) telecommunications system. The call to the subscriber is queued in the intelligent peripheral. **A determination is made that the subscriber line is not busy by dialing the subscriber line from the intelligent peripheral**. If a call is queued in the intelligent peripheral and the subscriber line is determined to be not busy, the call to the subscriber is connected with the subscriber line.

Independent claim 21 provides a method for queuing subscriber calls. A subscriber line is provisioned with Call Forward on Busy Line functionality at a local switch servicing the subscriber line. A subscriber call destined for the subscriber line at the local switch is received. If the subscriber line is busy, the received call is forwarded to a Direct Inward Dial telephone number on an intelligent peripheral via the Call Forward on Busy Line functionality. The forwarded call is received at the intelligent peripheral. The forwarded call is queued at the intelligent peripheral if the intelligent peripheral has at lease one available queue slot. **A call is placed from the intelligent peripheral to determine if the subscriber line is still busy**.

Independent claim 28 provides a method for queuing subscriber calls. At least one subscriber call is queued in an intelligent peripheral. **A busy check call is placed from the intelligent peripheral to a subscriber line**. The busy check call is received in a local

switch servicing the subscriber line. If the subscriber line is busy, the busy check call is forwarded back to the intelligent peripheral through Call Forward on Busy Line functionality implemented in the local switch. The busy check call is disconnected if the intelligent peripheral receives back the forwarded busy check call. A queued subscriber call is connected with the busy check call if the subscriber line is not busy.

The Examiner rejected claims 1, 21 and 28 using the same argument. According to M.P.E.P. § 2142, three criteria must be met for the Examiner to establish a *prima facie* case of obviousness. First, there must be some suggestion or motivation, either in Weisser, Knoerle, Watts, or in knowledge generally available to one of ordinary skill in the art, to modify Weisser. Second, there must be a reasonable expectation that this modification will succeed. Finally, either Weisser, Knoerle, or Watts must teach or suggest all claim limitations.

1. Neither Weisser, Knoerle Nor Watts Disclose Or Fairly Suggest Appellants' IP Placing A Busy Check Call

In order for Weisser, Knoerle and Watts to render Appellants' invention obvious, each limitation must be somehow disclosed in one of the references. The Examiner admits that neither Weisser nor Knoerle disclose determining if a subscriber line is busy by placing a call to the subscriber line from an intelligent peripheral in which a call to the subscriber line is queued.

> On one hand, the combination of Weisser in view of Knoerle did not specifically teach the claimed limitation of "dialing the subscriber line from the intelligent peripheral".
>
> Office Action, pg. 4 (underline in original.)

To make up for this lack of disclosure, the Examiner proposes Watts.

> On the other hand, examiner now would like to introduce Watts reference, which teaches a telecommunication system with a notification hold feature. Watts discloses if a called telecommunications device 18 disconnects, then intelligent

> peripheral 40 will initiate a call to the calling communications device 12 (see col. 3, lines 66-67, col. 4, lines 1-7 and Fig. 1).
>
> Office Action, pp. 4-5.

Taking the Examiner's representation of Watts as correct, the Examiner's combination fails. Watts teaches calling the calling party from an IP after the calling party is disconnected, for the purpose of reconnecting the calling party. In response to this argument, the Examiner admitted that Watts does not disclose Appellants' IP.

> Applicant adds "Watts teaches calling the calling party". The Examiner focused on one particular feature in Watts. Simply, the feature is having the (IP) initiating a call.
>
> Advisory Action, October 5, 2005, pg. 3 (underline in original).

None of the art cited teaches or fairly suggests placing a call from the IP for the purpose of determining if the subscriber line – the called party – is busy. Watts discloses an IP which calls a disconnected calling party back.

> If the called telecommunications device 18 disconnects, **intelligent peripheral 40 initiates a call to the calling telecommunications device** 12 which is notified of the disconnect by playing an announcement such as "Your Notification Hold call has been disconnected. If you wish to re-initiate the call, please press one now". The calling party either confirms the announcement whereupon the call is re-initiated by the intelligent peripheral, or the calling party simply disconnects.
>
> Watts, col. 3, ln. 66-col. 4, ln. 7 (emphasis added).

Weisser discloses that an idle line is detected by the switch itself (service switching point, SSP).

> Simultaneous to the message being played to the calling party, the called line is monitored to determine when it becomes idle (blocks 170, 180, and 190, FIG. 2). The SCP 26 initiates the monitoring by sending a monitor-for-change message to the SSP 15 that handles the called number. **When the called line becomes idle, the SSP 15 sends an idle status indication to the SCP 26 to indicate to the SCP 26 that the called number is available for a call from the queue.** When this monitor

> indicates that the called line is idle, it is determined whether there is more than one call which is currently holding in a hold queue in the SCP 26 waiting for connection (block 200, FIG. 2).
>
> Weisser, col. 9, ll. 41-49 (emphasis added).

The third reference cited by the Examiner, Knoerle, discloses playing various sounds to calls placed on hold by a programmable switch. As such Knoerle does not address the issue of how to determine when a busy line is free.

None of the references cited by the Examiner disclose an intelligent peripheral placing calls on behalf of queued calls to determine if a called subscriber is busy.[1]

2. The Examiner's Combination Of Weisser, Knoerle and Watts Will Not Succeed

Combining the ***teaching*** of Watts with Weisser and Knoerle will result in an inoperative system. Watts teaches calling the calling party. If the calling party is queued in the IP, and the IP calls the calling party, there is a 100% chance the line will be busy. The combination proposed by the Examiner will not result in Appellants' invention.

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[1]The Examiner, apparently informally, suggested that Appellants' invention was the same as the "Camp on busy feature," providing the following definition from Newton's Telecom Dictionary, 8th Ed.:

> **CAMP-ON** You want to transfer a call to a phone but it's busy. This telephone system feature will allow you to lock the call you're trying to transfer onto the line that's busy. When it becomes free, the phone will ring and the "camped-on" call will be connected automatically.

Appellants' invention does not rely on an automatic connection to a busy line when the line becomes free. Rather, Appellants' invention places calls from the IP to determine whether or not the called line is free.

3. There Is No Motivation To Combine Weisser, Knoerle And Watts As Suggested

There is no suggestion in the priro art to modify Weisser, which detects when a subscriber line is no longer busy using one technique, with Appellants' entirely different technique. The Examiner points to no motivation in any of the references. Instead, the Examiner suggests that the combination would "provide speed and convenience to the calling party, and enhance the efficiency of the system." (Office Action, June 30, 2005, pg. 5.) There is no evidence that a calling party would find Appellants' technique for determining when a subscriber line is open any more convenient than the technique in Weisser. Moreover, there is no evidence that Appellants' technique of calling the subscriber line from an intelligent peripheral is more efficient or faster than Weisser's technique of having the switch monitor the called line.

The only suggestion for Appellants' invention comes from Appellants' own specification. This hindsight is not enough.

The Examiner has failed to establish a *prima facie* case that claims 1, 21, and 28 are an obvious combination of Weisser, Knoerle, and Watts. Independent claims 2-10 and 22-27 depend from claims 1 and 21, respectively, and are therefore also patentable.

4. Claims 6 And 28 Are Separately Patentable Over Weisser, Knoerle And Watts

Claim 6, which depends from claim 1, provides for determining that the subscriber line is busy if the local switch calls the intelligent peripheral in response to the call to the subscriber line from the intelligent peripheral. Independent claim 28 provides a method for queuing subscriber calls including, *inter alia*, receiving a busy check call in a local switch servicing the subscriber line and, if the subscriber line is busy, forwarding the busy check call back to the intelligent peripheral through Call Forward on Busy Line functionality implemented in the local switch.

The Examiner provided no argument as to why these limitations in claim 28 were obvious or where they could be found in the prior art. The Examiner argued that claim 6 was obvious by stating:

> Regarding claim 6, the limitation of having the local switch call the intelligent peripheral when the subscriber line is found to be busy in response to a call to the subscriber line reads on the well known Forward on Busy feature. Calls in the queue will be directed to the called destination by monitoring the called line when it becomes idle (see [Weisser] col. 9, lines 43-53).
>
> Office Action, June 30, 2005, pg. 6.

The cited passage has been reproduced above. This passage discloses a switch with a monitor-for-change feature that sends a message to an SCP, not an IP, when the called line becomes idle. This is not a forward-on-busy function. More importantly, the mere capability of forward-on-busy does not disclose Appellants' invention. It is counterintuitive to have a call forwarded back to the same calling entity when a line is busy. The typical use of forward-on-busy is to send the call to a different calling location, not back to the caller.

B. Claims 11-20 Are Patentable Under 35 U.S.C. § 103(a) Over Weisser And Knoerle

Independent claim 11 provides a system for queuing subscriber calls within an Advanced Intelligent Network (AIN) telecommunications system. Each subscriber call is placed by a caller to a subscriber line. The system includes a local switch servicing the subscriber line. The local switch has Call Forward on Busy Line functionality provisioned on the subscriber line which forwards any subscriber call received for the subscriber line when the subscriber line is busy. An intelligent peripheral within the AIN system receives any forwarded subscriber call from the local switch. If queue slots are available in the intelligent peripheral, the received subscriber call is queued. A busy check call is placed to the subscriber line. The busy check call is dropped if the busy check call is forwarded back to the intelligent

peripheral from the local switch. A queued subscriber call is connected to the busy check call if the subscriber line is not busy.

The Examiner rejected claim 11 as an obvious combination of Weisser and Knoerle. Claim 11 requires an intelligent peripheral that places a busy check call to the subscriber line. The Examiner, in the same Office Action, admitted that neither Weisser nor Knoerle disclose such an intelligent peripheral.[2] Moreover, the Examiner's reasons for rejecting claim 11 do not address this limitation. As described above, no combination of the cited prior art teaches or fairly suggests Appellants' intelligent peripheral placing a busy check call to the subscriber line.

Claim 11 also provides that the intelligent peripheral drops the busy check call if it is forwarded back from the local switch. The Examiner provided no argument of any kind that this limitation is disclosed or suggested in either Weisser or Knoerle.

Claim 11 is patentable over the cited prior art. Claims 12-20, which depend from claim 11, are therefore also patentable.

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[2] "[T]he combination of Weisser in view of Knoerle did not specifically teach the claimed limitation of 'dialing the subscriber line from the intelligent peripheral'." Office Action, June 30, 2005, pg. 4.

C. Claims 1, 11, 21, And 28 Are Not Properly Rejected Under The Judicially Created Doctrine Of Double Patenting Over Marks

The Examiner rejected claims 1, 4-10, and 21-28 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of Marks. Independent claims 1, 11, 21 and 28 provide, *inter alia*, for an intelligent peripheral (IP) that ***determines if a subscriber line is busy by placing a call to the subscriber line*** ("determining that the subscriber line is not busy by dialing the subscriber line from the intelligent peripheral," "place a busy check call to the subscriber line," "placing a call from the intelligent peripheral to determine if the subscriber line is still busy," and "placing a busy check call from the intelligent peripheral to a subscriber line," respectively).

The Examiner asserts that independent claims 1, 11, 21 and 28 are not patentably distinct from Marks. However, Marks teaches and claims placing a call from the IP to the subscriber line ***after determining that the subscriber line is idle***.

> 1. For use in an Advanced Intelligent Network . . . a method of routing a telephone call from a Caller to a Subscriber line, comprising:
> * * *
> placing a call at the IP to the Subscriber ***in response to*** a determination that the Subscriber's line is idle; . . .

Marks' claim 1 does not read on Applicants' claims 1, 11, 21, or 28. Nor do Applicants' claims 1, 11, 21 or 28 read on Marks' claim 1. The present application and Marks claim two different techniques. Thus, Marks neither teaches nor fairly suggests Applicants' claimed invention.

The fee of $500 as applicable under the provisions of 37 C.F.R. § 41.20(b)(2) is enclosed. Please charge any additional fee or credit any overpayment in connection with this filing to our Deposit Account No. 02-3978.

Respectfully submitted,

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Enclosure - Appendices

VIII. CLAIMS APPENDIX

Claims 1 and 4-28, currently pending in this application, are reproduced below.

1. A method of queuing calls to a subscriber of queuing services accessed through a subscriber line, the method comprising:

provisioning Call Forward on Busy Line on the subscriber line to permit detecting a call to the subscriber line at a local switch connected to the subscriber line;

if the subscriber line is busy, forwarding the call to an intelligent peripheral within an Advanced Intelligent Network (AIN) telecommunications system;

queuing the call to the subscriber in the intelligent peripheral;

determining that the subscriber line is not busy by dialing the subscriber line from the intelligent peripheral; and

if a call is queued in the intelligent peripheral and the subscriber line is determined to be not busy, connecting the call to the subscriber with the subscriber line.

2. (canceled) .

3. (canceled) .

4. A method of queuing calls as in claim 1 wherein queuing the call to the subscriber comprises forwarding the subscriber line call to a Direct Inward Dial telephone number on the intelligent peripheral.

5. A method of queuing calls as in claim 1 wherein determining that the subscriber line is not busy comprises setting a Next Event List at the subscriber local switch.

6. A method of queuing calls as in claim 1 wherein determining that the subscriber line is not busy comprises determining that the subscriber line is busy if the local switch calls the intelligent peripheral in response to the call to the subscriber line from the intelligent peripheral.

7. A method of queuing calls as in claim 1 further comprising

determining that the call to the subscriber has been queued for a determined amount of time;

requesting that a caller placing the call to the subscriber perform an action to remain in queue; and

if the caller does not perform the requested action, dequeuing the call.

8. A method of queuing calls as in claim 1 further comprising:

receiving a plurality of calls to access the subscriber line;

placing each received call in the queue associated with the subscriber line if the subscriber line is busy;

collecting queue utilization information about each queued call; and

generating queue utilization statistics based on the collected queue utilization information.

9. A method of queuing calls as in claim 1 further comprising placing a call from the intelligent peripheral indicating status of the queued subscriber line call to the subscriber.

10. A method of queuing calls as in claim 1 wherein the intelligent peripheral is a switchless intelligent peripheral.

11. A system for queuing subscriber calls within an Advanced Intelligent Network (AIN) telecommunications system, each subscriber call placed by a caller to a subscriber line, the system comprising:

a local switch servicing the subscriber line, the local switch including Call Forward on Busy Line functionality provisioned on the subscriber line, the Call Forward on Busy Line functionality forwarding any subscriber call received for the subscriber line when the subscriber line is busy; and

an intelligent peripheral within the AIN system operative to:

(a) receive any forwarded subscriber call from the local switch;

(b) if queue slots are available in the intelligent peripheral, queue the received subscriber call;

(c) place a busy check call to the subscriber line;

(d) drop the busy check call if the busy check call is forwarded back to the intelligent peripheral from the local switch; and

(e) connect a queued subscriber call to the busy check call if the subscriber line is not busy.

12. A system for queuing subscriber calls as in claim 11 further comprising a service control point in communication with the intelligent peripheral, the service control point determining if queue slots are available in the intelligent peripheral.

13. A system for queuing subscriber calls as in claim 12 further comprising a messaging system, the service control point instructing the intelligent peripheral to dial the number of the messaging system and to bridge the received subscriber call to the messaging system call if the service control point determines no queue slots are available.

14. A system for queuing subscriber calls as in claim 12 wherein the service control point instructs the intelligent peripheral to play a message to the received subscriber call if the service control point determines no queue slots are available.

15. A system for queuing subscriber calls as in claim 11 wherein the intelligent peripheral is further operative to request that the caller perform an action to remain in queue after determining that the subscriber call has been queued for a determined amount of time and, if the caller does not perform the requested action, to dequeue the call.

16. A system for queuing subscriber calls as in claim 11 further comprising:

a plurality of intelligent peripherals, each intelligent peripheral implementing at least one call queue, each call queue associated with one of a plurality of subscribers;

at least one service control point, each intelligent peripheral in communication with one service control point collecting information about each queued call; and

a data server in communication with the at least one service control point, the data server aggregating queue utilization data for each subscriber.

17. A system for queuing subscriber calls as in claim 16 further comprising at least one data distributor, each data distributor in communication with a service control point and the data server, each data distributor receiving information about each queued call from the service control point and periodically forwarding the information to the data server.

18. A system for queuing subscriber calls as in claim 16 further comprising a data publishing platform in communication with the data server, the data publishing platform aggregating subscriber queue utilization data across a plurality of report periods.

19. A system for queuing subscriber calls as in claim 11 wherein the intelligent peripheral is further operative to place a status call providing status information to the subscriber about at least one queued call.

20. A system for queuing subscriber calls as in claim 11 wherein the intelligent peripheral is a switchless intelligent peripheral.

21. A method for queuing subscriber calls comprising:

provisioning a subscriber line with Call Forward on Busy Line functionality at a local switch servicing the subscriber line;

receiving a subscriber call destined for the subscriber line at the local switch;

if the subscriber line is busy, forwarding the received call to a Direct Inward Dial telephone number on an intelligent peripheral via the Call Forward on Busy Line functionality;

receiving the forwarded call at the intelligent peripheral;

queuing the forwarded call at the intelligent peripheral if the intelligent peripheral has at lease one available queue slot; and

placing a call from the intelligent peripheral to determine if the subscriber line is still busy.

22. A method for queuing subscriber calls as in claim 21 further comprising calling a messaging service from the intelligent peripheral if the intelligent peripheral has no available queue slots and bridging the forwarded call with the messaging service call.

23. A method for queuing subscriber calls as in claim 21 further comprising playing a message from the intelligent peripheral if the intelligent peripheral has no available queue slots.

24. A method for queuing subscriber calls as in claim 21 further comprising playing a message from the intelligent peripheral to the forwarded call when queuing the forwarded call.

25. A method for queuing subscriber calls as in claim 21 further comprising:

determining that the subscriber call has been queued for a determined amount of time;

requesting that a caller placing the subscriber call perform an action to remain in queue; and

if the caller does not perform the requested action, dequeuing the call.

26. A method for queuing subscriber calls as in claim 21 further comprising:

receiving a plurality of subscriber calls to access the subscriber line;

placing each received call in the queue associated with the subscriber line if the subscriber line is busy;

collecting queue utilization information about each queued call; and

generating queue utilization statistics based on the collected queue utilization information.

27. A method for queuing subscriber calls as in claim 21 further comprising placing a call from the intelligent peripheral indicating status of the queued subscriber call.

28. A method for queuing subscriber calls comprising:

queuing at least one subscriber call in an intelligent peripheral;

placing a busy check call from the intelligent peripheral to a subscriber line;

receiving the busy check call in a local switch servicing the subscriber line;

if the subscriber line is busy, forwarding the busy check call back to the intelligent peripheral through Call Forward on Busy Line functionality implemented in the local switch;

disconnecting the busy check call if the intelligent peripheral receives back the forwarded busy check call; and

connecting a queued subscriber call with the busy check call if the subscriber line is not busy.

IX. EVIDENCE APPENDIX

None.

X. RELATED PROCEEDINGS APPENDIX

None.